

Method and Apparatus for an Adaptive Binaural Beamforming System

ABSTRACT OF THE DISCLOSURE

An adaptive binaural beamforming system is provided which can be used, for example, in a hearing aid. The system uses more than two input signals, and preferably four input signals. The signals can be provided, for example, by two

- 5 microphone pairs, one pair of microphones located in a user's left ear and the second pair of microphones located in the user's right ear. The system is preferably arranged such that each pair of microphones utilizes an end-fire configuration with the two pairs of microphones being combined in a broadside configuration. Signal processing is divided into two stages. In the first stage, the outputs from the two microphone pairs are
- 10 processed utilizing an end-fire array processing scheme, this stage providing the benefits of spatial processing. In the second stage, the outputs from the two end-fire arrays are processed utilizing a broadside configuration, this stage providing further spatial processing benefits along with the benefits of binaural processing.